

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-12 are pending in the application. No claim amendments are presented, thus, no new matter is added.

In the outstanding Official Action, Claims 1-12 were rejected under 35 U.S.C. §103(a) as unpatentable over Takano (U.S. Patent Publication 2003/0153272) and further in view of Persson et al. (U.S. Patent No. 6,823,193, hereinafter "Persson").

In response to the rejection based on Takano and Persson, Applicants respectfully traverse this rejection. Specifically, Applicants submit that Takano fails to teach or suggest features of independent Claims 1, 9 and 12, for which it is relied upon as a primary reference under 35 U.S.C. §103.

Independent Claim 1 relates to a mobile communication system including a plurality of base stations and a radio controller which controls each of the base stations. Each base station includes a transmission power value reporting unit which reports, to the radio controller, a downlink transmission power value and a communications quality of a downlink from the base station to a mobile station.

The radio controller includes: a cell-determining unit which *determines*, out of cells each serviced by one of the base station, *a cell having a good communications quality; a reference-value determining unit which determines, as a reference value, a downlink transmission power value of the base station which services the determined cell*; an offset-value setting unit configured to set, based on the communications quality, an offset value corresponding to each base station; a target-value setting unit configured to set, based on the reference value and the corresponding offset value, a target value corresponding to each base

station; and a target-value reporting unit configured to report the target value to the base station.

Further, independent Claim 1 recites that each of the base stations include a transmission power control unit configured to control the transmission power value of the downlink from the base station to the mobile station to cause the transmission power value to approach the target value.

Independent Claims 9 and 12, while directed to alternative embodiments, recite substantially similar features. Accordingly, the arguments presented below are applicable to each of independent Claims 1, 9 and 12.

As noted at pp. 1-5 of the specification, systems that use a communication quality of the link between the base station and the mobile station to adjust uplink and downlink transmission powers produce non-uniform power values in downlink communications links.

In order to address this problem, the present inventors arrived at the claimed method of using a *downlink transmission power value* of a base station, which services a cell having good communications quality, as a reference value for other base stations in the system. Accordingly, non-uniformity in downlink connections is mitigated because the reference value is based upon *a transmission power value* and not communications quality between the base station and a given mobile station.

Turning to the applied primary reference, Takano describes a quality threshold setting method and communication controller using the method. Specifically, Takano's system includes a RNC (3) with a code word (CW) length information extracting module, which extracts information about the length of a bit stream of a CW transmitted over an uplink and notifies this to a reception quality threshold setting module.¹ The longer the notified CW length, the lower a quality threshold is set by the reception quality threshold setting module.

¹ Takano, Abstract.

The quality threshold set by the reception quality threshold setting module is multiplexed with an output signal and transmitted to a base station. Thus, Takano describes setting a quality threshold based on quality threshold measurements of base stations in the system.

Takano, however, fails to teach or suggest that the radio network controller includes “a reference-value determining unit configured to determine, *as a reference value, a downlink transmission power value of the base station which services*” a cell determined to have good communications quality, as recited in independent Claim 1.

Such an argument was previously set forth on the previously filed Request for Reconsideration. The outstanding Official Action attempts to address this argument in the “Response to Arguments” portion by again asserting that “reference numbers... read on the claimed reference-value... which reads on the claimed downlink transmission power value...” citing ¶[0069, 0073-0076, 0083-0086, 0092, 0095, 0105, 0107-0115, 0125-0130, 0136 and 0148] of Takano. However, the “reference numbers” recited in these portions of Takano are used to equate reference numerals of subsequent drawings to reference numerals described in previously described figures. For example, ¶[0083] of Takano states that “the same components as those of the mobile communication system of the first embodiment are labeled with the same reference numbers. Operations of the same components as those in the first embodiment are also the same.” Thus, the recitation of “reference numbers” in the cited portions of Takano refer only to reference numerals in the Figures of Takano. These “reference numbers,” do not refer to a reference value which is a *downlink transmission power value* of the base station which serves a cell having good communications quality, as recited in independent Claim 1.

Nonetheless, at no other point does Takano teach or suggest “a reference-value determining unit configured to determine, *as a reference value, a downlink transmission*

power value of the base station” which services a cell having good communications quality, as recited in independent Claim 1.

Instead, ¶[0125-0130] of Takano, for example, describes that information about a reception quality from a cell that provides the highest reception quality is determined. This information is then output to each of the base stations, which use this reception quality information to set a communication quality threshold. Thus, Takano describes only that a communication quality of the base cell is determined and such information is used to establish a communication quality threshold at each of the base stations. At no point does Takano teach or suggest determining a reference value as a downlink transmission ***power value*** of the base station which services a cell having good communications quality, as recited in independent Claim 1.

¶[0073-0076] and Fig. 4 of Takano further describes that a base station receives a CW sent from a mobile station and the quality measuring unit (16) measures the reception quality of the CW. The reception quality measuring unit (16) then compares the measured reception quality with a quality threshold notified from the RNC (3) and notifies the result of the comparison to the transmit power controller (17). Based on this comparison, reception quality is adjusted using “ordinary” high-speed closed-loop power control. Thus, the base station in Takano determines if power control procedures must take place between the base station and the mobile station by comparing the communication quality of a link to a threshold communication quality stored at the RNC. As noted above, Claim 1 recites that a radio controller “***determines***, out of cells each serviced by one of the base station, ***a cell having a good communications quality***” and “***determines, as a reference value, a downlink transmission power value*** of the base station which services the determined cell,” then uses this reference value to set a power level offset for each base station managed by the RNC.

Takano, on the other hand, clearly performs a comparison using a reception quality, and not a *transmission power value*.

Further, in addressing the “offset-value setting unit” feature recited in independent Claim 1, the outstanding Official Action relies on ¶[0137-0139] of Takano. This portion of Takano describes that FER and SIR (i.e., communication quality metrics) of various links are examined to determine an offset value “to a target SIR of the uplink.” Thus, Takano, again, describes that a communication quality level is used to establish a threshold at each base station servicing a given mobile station.

As noted above, using a *downlink transmission power value as a reference value* mitigates the problem of non-uniformity, which is caused by setting the power value based on the quality of a communication downlink. Takano’s system is specifically directed to using the quality of communication downlinks. Therefore, Takano fails to teach or suggest “a reference-value determining unit configured to determine, *as a reference value, a downlink transmission power value* of the base station” which serves a cell having good communications quality, as recited in independent Claim 1.

Turning to the secondary reference, Persson describes a method for adjusting downlink transmission power of base stations involved in a diversity handover to minimize base station power “drift.”² Persson, however, fails to teach or suggest determining, as a reference value, “*a downlink transmission power value* of the base station,” which serves a cell determined to have good communications quality, as recited in independent Claim 1.

Thus, Persson fails to remedy the deficiency of Takano, and therefore, none of the cited references, neither alone nor in combination, teach or suggest Applicants’ Claims 1-12 which include the above distinguished limitations by virtue of independent recitation or

² Persson, Abstract.

dependency. Therefore, the Official Action does not provide a *prima facie* case of obviousness with regard to any of these claims.

Accordingly, Applicants respectfully request that the rejection of Claims 1-12 under 35 U.S.C. §103 be withdrawn.

Consequently, in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1-12 is patentably distinguishing over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

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